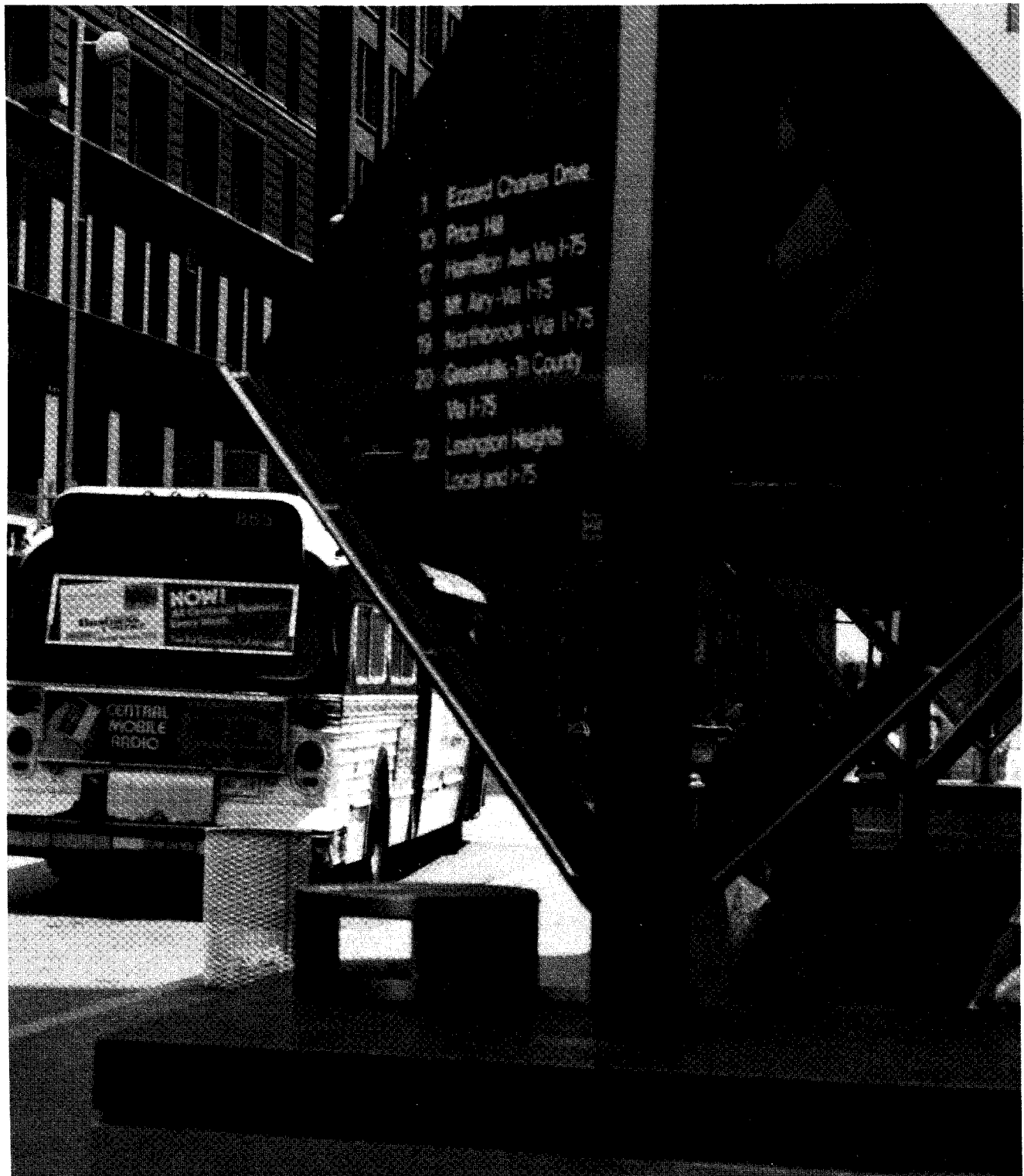




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An Inventory of Innovative Financing Techniques for Transportation

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Final Report
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Introduction

A number of innovative financing schemes have recently been developed by state and local transportation agencies which focus on recapturing some of the beneficial impacts from stations and rechanneling them into financial support of the transportation system. As traditional subsidies for transportation decrease, these innovative techniques are becoming increasingly important as a means of meeting local transportation needs. The report which follows is a guide to such techniques. More specifically, it is designed to acquaint transportation planners and other local officials with financing approaches which have been employed in other localities, and to provide them with sufficient understanding of such options as to make preliminary value judgements as to the practicality of alternative approaches for their own jurisdictions.

The guide is divided into three major components. The first is a typology of value capture approaches for transportation financing. The second contains a description of each approach or element within the given typology. Finally, a detailed annotated bibliography is provided as a guide for state and local officials desiring additional information.

I

A Typology of Value Capture Techniques for Transportation

I. Charges on Benefitting Properties

- Connector Fees/Service Charges
- Negotiated Investments
- Special Benefit Assessment Districts
- Tax Increment Financing
- Transit/Traffic Impact Requirements

II. Joint Ventures With the Private Sector

- Land/Air Rights Leasing
- Donations for Capital Improvements and Operating Expenses
- Cost Sharing

III. User Charges

- Motor Vehicle Taxes and Fees
- Tolls
- Commercial Parking Taxes
- Taxes on Motor Fuels

IV. Marketing and Merchandising Approaches

- Advertising/Marketing
- Concessions

II

ELEMENTS OF THE TYPOLOGY

CHARGES ON BENEFITTING PROPERTIES

Connector Fees/Service Charges

Description: Connector fees or service charges are charges to owners or developers of buildings adjacent to a transportation facility, for being connected to it. Such fees have generally been of three types: 1) lump sum payments to compensate for capital costs of knockout panels, plaza areas, etc.; 2) an annual contribution to the operating costs of the facility, such as station maintenance; or 3) 'in lieu' dedication of property for station areas or easements (see: Southern California Rapid Transit District, p. VII-II and Public Technology, Inc., 1982b: p. 14).

Issues: Transportation agencies must possess the legal authority to negotiate connector fees and service charges.

Developers in the United States have traditionally resisted paying for access to transit.

Selected

Examples:

In Washington, D.C., a department store (Woodward and Lothrop) paid \$500,000 for a knockout panel to connect the store's basement level to the region's Metro system. "The store experienced an initial 53 percent increase in retail sales volume and to date, has realized a subsequent increase each time

the Washington, D.C. Metro system has expanded (Southern California Rapid Transit District, p. V11-12)."

Dade County, Florida expects to collect approximately \$5 million in connector fees from the downtown component of their Metrorail system.

"The Mobile Land Development Corporation is paying Arlington County, Virginia, a portion of the cost of a pedestrian tunnel connecting an office-residential complex with a subway station (Public Technology, Inc., 1982b: p. 14)."

* * * * *

Negotiated Investments

Description: A negotiated investment is an agreement between a developer and a public body, through which the former agrees to contribute a fixed sum towards a public improvement benefitting his development. This contribution is usually made in exchange for some concession which the developer needs if he is to complete his development. "Local governments often can utilize their zoning and building permit authorities to bargain with developers to pay for transit-related improvements required to provide access to the new development area (Rice Center, 1982: p. 5).

Issues: Transit agencies have no control over zoning and other land use regulations. As a result, they must work with other governmental bodies, as well as developers, to obtain to desired results.

Legal issues frequently arise in regards to the extent to which a governmental body can attach conditions to zoning approvals.

Selected

Examples:

A group of developers in New York City is providing \$31.5 million to the City's MTA to renovate an overcrowded subway station. "The \$31.5 million is part of a \$100 million "amenity package" of public improvements for the developers' proposed housing and commercial project along the Hudson River. The contribution is the result of negotiations between the developers and the New York City Planning Commission to change the zoning of the project site from manufacturing to residential use (Rice Center, 1982: p. B-1)."

In Portland, a developer was required to provide land and engineering work for a transfer center and parking lot along a light rail right-of-way in exchange for the granting of a conditional use permit.

* * * * *

Special Benefit Assessment Districts

Description: A special benefit assessment is a tax or charge levied on property within a well defined area which directly benefits from a public improvement. Revenue generated from the assessment can be used to pay for some or all of the improvement, and can either be a one time fee or a reoccurring charge over a specified number of years.

Issues:

State enabling legislation is required for the creation of Special Benefit Assessment Districts.

Property owners frequently challenge the establishment of special benefit assessment districts in court (See: Public Technology, Inc., 1982: p. 15).

The assessment is only on those properties which directly benefit from the improvement and is therefore often politically more acceptable than some alternative financing approaches.

Selected

Examples:

"Maintenance of the 16th Street transit mall in downtown Denver is being funded through a special assessment charged to property owners immediately adjacent to the mall corridor. A 1978 revision to

the city charter permitted creation of the special district. The first year assessment for the 1982-83 period is anticipated to generate \$1.5 million (Rice Center, 1983: p. 6-7)."

"The City of San Francisco recently passed an ordinance designating all downtown office space as a special assessment district and dedicating the revenue to the local transit district (Public Technology, 1982: 14-15)."

* * * * *

Tax Increment Financing

Description: Tax increment financing is a technique whereby public projects are funded by increases in property tax revenue, brought about by increased public and private investment near the public improvement. The approach is employed in several distinct steps. First, a tax increment financing district is established in the area which will benefit from the project. Second, a base year of assessed property values is established. As property values in the area rise, resulting increases in property taxes are dedicated to improvements within the district, while the equivalent of base line property taxes are distributed to pre-existing taxing jurisdictions.

Issues: The necessary enabling legislation for tax increment financing does not exist in many states.

It is difficult to separate transit induced values from the myriad of other economic forces at work in any particular area. As a result, it is hard to justify utilizing increases in property taxes for solely transit purposes.

"Political resistance to the creation of tax increment districts often has come from related tax jurisdictions, such as school districts or hospital districts, which rely heavily on property tax revenues and which will be deprived of additional income in the tax increment financing district (Rice Center, 1983b: p. 8)."

Selected

Examples: There has been little experience in this country at utilizing tax increment financing for transit. In fact, although this technique shows great promise for transportation and has been used extensively in redevelopment projects, "the Embarcadero Station in San Francisco is the only transit project that has made use of it (Public Technology, Inc., 1982b: p. 15)."

* * * * *

Transit/Traffic Impact Requirements

Description: Impact requirements are charges and other requirements imposed on developers to mitigate and compensate for the impacts of new developments on transit and traffic patterns. Such requirements are established by local ordinances and are administered through local police powers, usually the building permit process. The requirement may take several forms. "For example, the requirement may be a fee based on the square footage of new development or it may be sponsorship of ridesharing programs (Rice Center, 1982: p. 9)."

Issues: Developers argue that such requirements impede growth and economic development.

Local ordinances are required.

Selected

Examples: "In San Francisco, the County Board of Supervisors enacted in 1981 the Transit Development fee ordinance which authorizes the city to collect a one-time fee of \$5 per square foot from owners or developers of new downtown office space (Knoxville-Knox County Metropolitan Plan Commission, 1984: p. 62)."

In 1981 Palm Beach, Florida, enacted a Traffic Performance Standards Ordinance. This ordinance requires constructed improvements rather than fees

and therefore usually requires greater investments by the developers. It was used by Plam Beach County to negotiate \$1.55 million in financing for a \$1.6 million road widening project, necessitated by a 734 acre residential/commercial development (see: Rice Center, 1983: p. 81).

* * * * *

JOINT VENTURES WITH THE PRIVATE SECTOR

Land/Air Rights Leasing

Description: Where a transportation agency owns land adjacent to its facilities but does not need such property for immediate transit uses, or where a parcel is not being utilized to its full potential, the full value of such property can sometimes be captured by leasing the air, surface, or subsurface rights. Such leases provide a steady stream of income over the duration of the lease (usually 99 years) to offset operating costs or capital improvements.

Issues: Several cases have been brought to court which question the eminent domain powers of public entities to obtain air or subsurface rights in excess of those needed to achieve the objectives for which the land is being condemned.

Citizens groups frequently question the equitability of lease arrangements, often arguing that the public entity does not benefit sufficiently.

Selected

Examples:

A developer in Boston has negotiated a 99 year lease for the air rights over a segment of the

Massachusetts Turnpike for the purpose of constructing a mixed use development (See: Rice Center, 1983: p. 31).

The Denver Regional Transit District leased air rights over the Civic Center Transit Facility in 1981, which will provide income of \$55 million over the next 15 years (See: Rice Center, 1982: p. I-1).

"Washington Metropolitan Area Transit Authority (WMATA) is leasing land adjacent to a suburban subway station to a commercial developer (Public Technology, 1982: p. 19)."

* * * * *

Donations for Capital Improvements and Operating Expenses

Description: Several communities have been successful in obtaining donations from the private sector to improve or expand their transit systems. Such donations have been of two forms: 1) monetary donations for capital improvements or the extension of service; or 2) donations of real property as sites for transit facilities.

Issues: The transit agency must possess the legal power to accept donations.

If a non-profit tax exempt committee is established

to accept the donations, such contributions can be invested without tax liability, and corporations making contributions are eligible to receive tax write-offs (See: Rice Center, 1982: p. 51).

Contributions are most likely in connection with highly visible projects.

Selected

Examples:

Nine million dollars was raised in a two year period by the Committee to Save the Cable Cars in San Francisco (See: Rice Center, 1982: p. 51).

The Grand Rapids Area Transit Authority (GRATA) received a \$100,000 donation as the local match for the downtown bus systems, in exchange for lengthening one of the systems routes to service the local Zoo (See: Rice Center, 1983A: p. 40).

In Newport Beach, California, the developer of a mall donated land for a transit center and contributed \$300,000 toward the operation of a shuttle service (See: Rice Center, 1983A: p. 42).

* * * * *

Cost Sharing

Description: Developers and building owners wishing to have transit stations interconnected or integrated with

their commercial facilities are sometimes willing to share operating expenses and/or to contribute to capital construction costs. "In return, their investments: 1) ensures them of the development opportunity to proceed with their projects in advance of system operation, and 2) furnishes a long-term competitive advantage for their projects (Southern California Rapid Transit District, 1983: p. VIII-9)."

Issues: The transportation agency must possess the legal authority to negotiate cost sharing agreements.

Cost sharers need to be included in the design stage of a transit facility. This generally "assures an improved overall design of the subject station area, and affords the participating development interest an improved short- and long-term competitive market advantage (Southern California Rapid Transit District, 1983: p. VIII-10)."

Selected

Examples:

Los Angeles was the first city in the U.S. to "negotiate an individual station maintenance and capital cost sharing agreement for a then proposed downtown people mover (Southern California Rapid Transit District, 1983: p. VII-10).

The owners of the International Square Development

in Washington, D.C., provide all heating and air conditioning for the Farragut West Metro Station (Southern California Rapid Transit District, 1983: p. VII-10).

A real estate firm in Des Moines, Iowa is sharing expenses for starting a bus service to an outlying community (See: Public Technology, Inc., 1983b: p.20).

* * * * *

USER CHARGES

Motor Vehicle Taxes and Fees

Description: There is an array of fees and taxes on motor vehicles which can be used for transportation purposes. They include: Driver's license fees, parts and repair excise taxes, registration fees, heavy vehicle taxes, fees for "vanity plates", tire taxes, and personal property taxes on motor vehicles. While such fees have generally only been used for highway finance, a justification can be made for their use in regards to transit finance, on the grounds that transit systems reduce congestion on highways and thereby provide benefit to all travelers.

Issues: Vehicle owners object to subsidizing transit through motor vehicle taxes and fees.

The administrative costs to collect most motor vehicle taxes are relatively high, although administrative mechanisms are in place for many of them.

Enforcement on some motor vehicle taxes is difficult. For example, since many personal property and registration taxes are levied only in a localized area, anyone claiming to reside outside of the area is exempt (Knoxville-Knox county Metropolitan Planning Commission, 1984: p. 60).

Most motor vehicle taxes are progressive, in that they tend to tax upper income households most.

Selected

Examples: "A surcharge on vehicle license fees has a partial precedent in Washington State's two percent tax on the value of motor vehicles. The proceed of that state tax are shared with local transit districts (Southern California Rapid Transit District, 1983: p. VII-7)."

"Virginia allows municipalities to impose personal property taxes on vehicles. (Public Technology, Inc., 1982b: p. 13).

The federal government and many states impose "heavy vehicle" taxes.

* * * * *

Tolls

Description: Fees for access to selective highways, bridges and tunnels can be a significant source of revenue for both highway funding and transit. Such fees are often collected by regional or turnpike authorties that operate outside state or local authority.

Issues: "If a State imposes a toll on an Interstate facility, it must pay back the Federal government its original contribution (Public Technology, Inc., 1982A: p. 19).

Enabling legislation is required to establish toll districts.

A strong case can be made for using tolls in congested areas to finance transit, on the grounds that such areas would be more congested in the absence of such services.

Selected

Examples: "States with toll bridges and facilities include: California, Connecticut, Delaware, Florida, Georgia, Illinois, Michigan, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Texas, Virginia, and West Virginia (Public Technology, Inc., 1982: p. 21)."

"New York, Philadelphia, and San Francisco have used tolls to help finance local transit. For example, the Triborough Bridge and Tunnel Authority annually contributes over \$100 million to meet New York City's transit deficit (Public Technology, Inc., 1982A: p. 13)."

* * * * *

Commercial Parking Taxes

Description: Several communities, including New York City, have recently begun taxing commercial parking lots. Such taxes are borne either by the parker or by the lot operator. Taxing commercial parking shows great

promise, in that it has the potential of both serving as a permanent local funding source for transit and transportation improvements, and for increasing local farebox revenue.

Issues: A recent study by Miller and Everett indicates that parking price strategies can significantly alter travel behavior (Transportation, 1982: pps. 105-106).

Questions of equitability can be raised when only commercial lots are taxed. It has been argued that all long-term downtown parkers should be included in any taxing scheme.

Commercial parking taxes can discourage downtown shopping and job seeking and thus in an overall sense be counterproductive (Public Technology, Inc., 1982b: p. 13).

Selected

Examples: A six percent tax on commercial parking in New York City yields approximately \$12 million per year.

A 25 percent tax on commercial parking in San Francisco generates approximately \$5.5 million annually.

* * * * *

Taxes on Motor Fuels

Description: Taxes on motor fuel, including gasoline, diesel, and gasohol, have traditionally only been used for road and highway construction and maintenance, although in recent years such fund have been used to finance transit, as well. Such taxes can provide an ongoing revenue source for transit, and vary with fuel usage and therefore to some extent with the amount of benefit derived (See: Southern California Rapid Transit District, 1983: p. VII-7).

Issues: With the passage in April of 1983 of a federal fuel tax increase, some of which is dedicated to transit, additional increases at this time would likely be politically unacceptable (See: Knoxville-Knox County Metropolitan Planning Commission, 1983: p. 60).

Motor fuel taxes are easily administered, and since they are tied to fuel prices, tend to rise with inflation.

Local referendum are often required to implement motor fuel taxes.

Selected

Examples: Motor fuel taxes are employed by literally every state in the country, with rates ranging from 5 to 14 cents per gallon.

"Virginia recently adopted a 2-cents-per-gallon increase and an additional 4 percent tax in Northern Virginia only, to help finance the Washington, D.C. metropolitan area transit system (Public Technology, Inc., 1982A: p.17).

Illinois, Florida, Tennessee, and Virginia allow local jurisdictions to tax motor fuels and earmark revenue for transit (Public Technology, 1982B: p. 12).

* * * * *

MARKETING AND MERCHANDISING

Advertising/Marketing

Description: Transit stations, buses, and trains make excellent locations to market goods and services due to the large volume of people coming into contact with them daily. Transit agencies frequently take advantage of this fact by renting or leasing advertising space in high traffic areas. Mechanisms employed in this regard include: 1) kiosks in terminals and on boarding paths; 2) rental display cases; 3) audio-visual displays; and 4) panel boards on and in trains and buses.

Issues: Kiosk advertising can hinder security by shielding areas from the views of security cameras and guards.

Vandalism is a major problem with kiosks in many cities.

Selected

Examples:

Cities throughout the United States are using advertising as a means of raising revenue for transit. MTA in New York City raises almost \$17,000,000 annually in this manner, while METRO in

Washington, D.C., raises 1.6 million, and the CTA in Chicago almost 2.2 million (See: Southern California Rapid Transit District, 1983: p. VII-15).

* * * * *

Concessions

Description: Concession can be grouped into two major categories: 1) manned retail outlets (including such establishments as newspaper stands, retail stalls, food and drink stands, etc.); and 2) mechanical devices (including telephones, automated teller machines, vending machines, etc). They generate revenue for transit agencies through what are generally termed as "revenue percentage" or "sales override" leases, or through annual concession fees under a "master lease" agreement.

Issues: While the maintenance of concessions is generally the responsibility of the concessionaire, food and beverage retail outlets and vending machines increase refuse maintenance costs associated with the transit station and associated rolling stock.

Concessions frequently necessitate increased levels of security at station sites.

Selected

Examples:

"Several banks in Toledo, Ohio, are paying the maintenance costs of new downtown bus shelters, in which they are installing automatic teller machines (Public Technology, Inc., 1982b: p. 14).

A report by the Southern California Rapid Transit District estimates that non-food and beverage built in vending machines could "generate approximately \$1 million in annual revenue for the Metro Rail system measured in 1982 dollars (1983: p. VII-18). It estimates further that a "full complement of kiosk and retail stall facilities located in Metro Stations would generate between \$750,000 and \$1.5 million in annual revenue to the SCRTD (1983: p. VII-19)."

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III

AN ANNOTATED BIBLIOGRAPHY

III

Annotated Bibliography

Atlanta Regional Commission (1978), Selected Value Capture Opportunities Related to the Rapid Transit System in Metropolitan Atlanta. Atlanta, GA: Atlanta Regional Commission.

This staff working paper introduces the concept of value capture, examines several alternative value capture techniques, and identifies value capture opportunities at selected MARTA stations. Issues associated with value capture strategies are explored and specific strategies developed for selected stations.

Collura, John and Dale Cope (1982), A Manual of Procedures to Apportion Costs of Rural Public Transportation Among Participating Towns and Human Service Agencies. Amherst, MA: Department of Civil Engineering, University of Massachusetts.

The purpose of this manual is to provide assistance and guidance in the design and evaluation of procedures which can be used to apportion costs of rural public transportation among participating towns and human service agencies. Each procedure consists of an equation or formula which arrives at assessments or charges for services based on the application of one or more variables. Examples of such variables include: population, property valuation, vehicle miles, vehicle

hours, passenger trips, and passenger miles. Each variable is examined in terms of the particular characteristics or quality which it is designed to measure. Procedures to apportion or allocate the costs of rural public transportation may be formulated using one or more of these component variables, in various combinations, and with varying results.

Federal Highway Administration, Office of Programs and Policy Planning (1981), "Capital Cost Allocations and User Charge Structure Options": Highway Cost Allocation Study, Working Paper Number 12. Washington, D.C.: U.S. Department of Transportation.

Based upon the belief that costs should be borne by users in relation to actual costs associated with highway use, this paper attempts to develop and assign equitable and efficient highway user charges to various groups of users.

Harmon, Robert J., and Associates, Inc., (1984), Miami's Downtown Component of Metrorail: Public-Private Coventure Financing Using a Special Assessment District. (Washington, D.C.: U.S. Department of Transportation (DOT-1-84-16).

This case study documents the step-by-step consensus building process employed in Miami to create a special assessment district in the CBD for support a bond issue which is being used to partially finance a new people mover. This consensus building process also generated support for the County to pursue: leveraged leasing,

connector fees, and shared station costs and property deductions to procure further private sector financial support of the system (pg. I-3).

Keefer, Louis E., (1984), Profit Implications of Joint Development - Three Institutional Approaches. Washington, D.C.: U.S. Department of Transportation (DOT-1-84-50)

Placing major emphasis on the joint development programs of the Washington Metropolitan Transit Authority (WMATA) and the Market Center Development Corporation of Baltimore (MCDC), Keefer examines "the benefits and costs accruing to public transit authorities engaged in joint development and system interface projects in connection with the construction, reconstruction, or general improvement of rapid transit stations or bus and/or intermodal terminals (p. 1)."

A major contribution of this work is Keefer's identification and description of three institutional approaches for joint development planning and implementation. He describes these as: 1) the Washington or autonomous authority approach; 2) the Los Angeles or cooperative agreement approach; and 3) the Baltimore or transportation corridor development corporation approach. He points out that each approach has advantages and disadvantages, and that the "best" approach for any particular transit authority will be dependant upon local circumstances.

_____, (1983), An Interim Review of Nine UMTA - Assisted Joint Development Projects, Washington, D.C.: U.S. Department of Transportation (DOT-1-83-46).

Keefer evaluates the success of nine joint development projects begun under the former Urban Initiatives Program with Urban Mass Transportation Administration (UMTA) funding assistance. The projects are located in Baltimore, Boston, Buffalo, Cambridge, Cedar Rapids, Davenport, Miami, Philadelphia, and Santa Ana, California. His findings are based mostly upon projections, as none of the projects had yet been completed. Nonetheless, his findings suggest that the joint development projects will result in significant payoffs in terms of: 1) additional fare box revenue; 2) leveraged public investment; 3) job creation; and 4) increased property tax revenue.

Knoxville - Knox County Metropolitan Planning Commission and K-Trans (1984), Evaluation of Innovative Financing Techniques -Knoxville, Tennessee's Experience. Washington, D.C.: U.S. Department of Transportation (DOT-1-84-45).

The authors review alternative funding enhancement options from throughout the country, and evaluate the potential applicability of each to the Knoxville public transportation situation. Criteria used in this evaluation were: legal feasibility, political feasibility, social equity, and revenue generation. Motor fuel tax, commercial parking tax, gambling tax,

and tax increment financing emerged as the options most applicable to Knoxville, with a motor fuel tax being deemed the "best" option (p. 88).

Meisner, L. J. (1984), Financing Urban Transportation Improvements. Report 2. Use of Private Funds for Highway Improvements. Raleigh, NC: Kimley-Horn and Associates, Inc. (NTIS # PB84-157254).

This report examines existing uses of private funds for highway improvements, assesses alternative mechanisms for obtaining private financing, and provides recommendations for ways the public and private sector can increase the use of this important form of public-private cooperation for constructing needed highway facilities. The study focuses primarily on participation by developers in funding improvements on facilities impacted by their developments. Seven case study projects provide detailed information on the ways private funds have been or are being used to finance highway improvements. Constraints for the increased use of private funds exists at various levels of government and within the private sector. The report examines the significance of the constraints and presents recommendations on ways to increase the use of private funds.

Meyer, Michael D. and P. Brendon Hemily (1982), Public Transportatiin in the 1980's: Responding to Pressures of Fiscal Austerity. Cambridge, MA: Massachusetts Institute of Technology.

Many public transit agencies are beginning to face serious difficulties in obtaining the financial support needed to operate service at previous levels. Local pressures for fiscal austerity, and the resulting competing demands for oftentimes less money, have severely constrained many transit agencies. These transit agencies are facing some difficult choices in responding to government cutbacks in funding support. The purpose of this research was to examine how transit agencies are responding to these fiscal pressures and to identify actions that could be taken to ease the transition to a resource-scarce environment.

Public Technologies, Inc., (1983), Joint Development: A Handbook for Local Government Officials. Washington, D.C.: U. S. Department of Transportation (DOT-1-83-48).

An excellent reference work designed to acquaint local officials and transit managers with the workings of joint development, including the steps which must be taken by the public sector, and the issues and problems which may arise during the process. Case studies of: 1) the Market Center Development Project in Baltimore; 2) the Civic Center Transit Terminal Development Project in Denver; 3) the Overtown Transit Area Redevelopment Project in Miami; 4) the Gallery II Development Project in Philadelphia; and 5) the Santa Ana Transportation Center Project are presented in the appendices of this document.

(1982), Inflation-Responsive Financing for Streets and Highways: An Urban Consortium Information Bulletin, Washington, D.C.: U.S. Department of Transportation (DOT-1-82-56).

Organized in four major chapters, this report contains: a discussion of the issues and problems of financing streets and highways; an examination of alternative financing techniques; a list of potentially useful contacts at the federal, state, and local levels; and a brief annotated bibliography.

In chapter two the authors discuss the advantages and disadvantages of alternative financing techniques for streets and highways. Such techniques are grouped into six basic categories, as follows:

1. General Taxes (i.e., property, sales, employer/payroll, personal income, and excise taxes);
2. Highway User Fees (i.e., motor fuel taxes, gasohol exemptions, motor vehicle taxes, heavy vehicle taxes, tolls, and parking charges);
3. Special Taxes (i.e., special assessment districts, severance taxes, and franchise taxes);
4. Borrowing
5. Joint Development (i.e., air rights development, development fees, and value capture taxes); and
6. Financial Management (i.e., budget indexing and cash flow financing).

_____, (1982b), Inflation Responsive Transit Financing, Washington D.C.: Public Technology, Inc. (DOT-1-82-27).

Described are a variety of mechanisms used by local government to finance transit services, including: broad based taxes (i.e., sales, property, payroll, income and lottery); charges on motor vehicle users; charges on property benefitting from transit; borrowing strategies; and joint ventures with the private sector. Examples of each financing technique are provided along with the names and addresses of individuals who have had experience with them.

_____, (1980), Non-Federal Street and Highway Financing. An Urban Consortium Information Bulletin. Washington, D.C.: U.S. Department of Transportation (DOT-1-80-19).

The report examines local funding sources for streets and highways (general funds and assessments, parking proceeds, tolls, traffic fines, etc.), highlighting funding sources for highway and street purposes of the 27 largest cities, local disbursement for streets and highways, local street and highway needs, and the impact of inflation on local programs. The report includes a description of issues and problems as seen by the cities, lists of contacts and programs of particular interest, and an annotated bibliography.

_____, (1980b), Proceedings of the Joint Development Marketplace, June 25-27, 1978. Washington, D.C.: U.S. Department of Transportation (DOT-1-80-3).

This document is a compilation of speeches, project presentations, panels, workshop discussions, and issues papers present at a conference sponsored by the U.S. Department of Transportation in 1978. The purpose of the conferences was to provide a forum through which government officials and developers could share their experiences and ideas on joint development. Topics related to joint development addressed in this document include the following: a summary of the Joint Development Marketplace; differing perspectives on joint development (i.e., federal, developer's, and local government officials); two case studies; two evolving projects; a summary of the Federal and Financial Panels; and a Site Marketing Information Summary and Sheets.

Rice Center (1984), Administrative Impacts of Private Financing Techniques for Urban Transportation. Houston, TX: Rice Center.

The basic research question examines whether changes in local administrative practices and federal policies may be needed in order to encourage and facilitate greater use of private enterprise, investment and participation in the provision of urban transportation services. The research project has its origins in the concern that urban transit dependence on federal operating and capital subsidies may have caused local transportation agencies to adopt administrative structures and procedures designed primarily to suit federal grant requirements. Those structures and procedures may, therefore, now inhibit greater use of the private sector

in meeting transportation needs in urban areas. Moreover, federal policies may have neglected those aspects of transportation statutes which were intended to encourage private sector enterprise, investment, and participation.

(1983) Alternative Financing for Urban Transportation: State-of-the-Art Case Analyses, (Washington, D.C.: U.S. Department of Transportation, DOT-1-83-54).

This report includes 49 brief case studies which "reflect the variety of efforts being made by large and small transit agencies and highway department to cope with shortfalls in funding (pg i)." Each case analysis includes seven sections: a description of the experience, results from it, the legal and political issues associated with it, the amount of time required to implement the technique, contact persons, and references.

Benefit assessment districts, local fuel taxes, development impact ordinances, leased property rights, contracted services, private provision of services, toll financing, and grant anticipation notes, are among the alternative financing techniques discussed.

(1983b), Revenue Forecasts for Innovative Light Rail Financing Options. Washington, D.C.: U.S. Department of Transportation (DOT-1-83-36).

The Denver Regional Transportation District is currently in the process of examining financing options for the construction of a proposed 77 mile light rail system. This report estimates the potential revenues that could be generated by employing value capture techniques. Techniques examined included: 1) lease or sale of undeveloped air and ground rights, 2) lease or sale of developed air and ground rights, 3) lease of concession space, 4) special benefit assessment, 5) tax increment financing, 6) turnkey ventures, and 7) joint ventures.

(1982), A Guide to Innovative Financing Mechanisms for Mass Transportation. Washington, D.C.: U.S. Department of Transportation (DOT-1-82-53).

This report is a compendium of new sources of revenue and innovative applications of existing revenue to support transit. The emphasis of the report is on practical techniques which have already been applied, and what the result of these application have been. Techniques are grouped in several broad areas: assessments, taxes and user charges, use of property and property rights, issuance of debt, contracted services, voluntary participation programs, and other recent initiatives and new ideas. The guide itself is divided into two sections: the first describes each technique and the issues associated with it; the second documents the experience with the approaches discussed. Addresses and phone numbers of officials who have made each technique work are included. The report is written in

non-technical language and should be especially useful to those having policy making responsibilities for public transportation.

Sharpe, Carl P. (1977), Value Capture and Joint Development Applications: Chicago, Louisville, Los Angeles. Washington, D.C.: U.S. Department of Transportation.

Value capture policy is evaluated using highlights of findings from previous work at Rice University. Defines how value capture can be implemented; describes legal, financial, and community design issues associated with the value capture concept; and summarizes the concessions reached and methodology employed in the research. Three case studies are included.

Skidmore, Owing, & Merrill (1973), Transit Station Joint Development. Washington, D.C.: U. S. Department of Transportation (NTIS # PB 225 629).

The institutional, economic, legal, engineering and design problems associated with joint development are examined in this report. Findings from the study suggest that: 1) fragmentation of government institutions can impede joint development plans; 2) many agencies use inadequate planning and redevelopment coordination actions; 3) poor station design can lead to inadequate transportation coordination and ridership loss; 4) all phases of joint development should be

integrated from the beginning; and 5) public and private agencies and groups should all participate in the planning process.

Southern California Rapid Transit District (1983), Joint Development and Value Capture in Los Angeles: Local Policy Formulation. Washington, D. C.: U.S. Department of Transportation (DOT-1-83-23).

This document was designed as a policy level guide to the land use and economic development that might be realized as a result of L.A.'s Metro Rail Project. Value capture techniques which are discussed include: special benefit assessment districts, tax increment financing, motor vehicle use taxes, motor fuel taxes, vehicle ownership taxes, toll charges, parking charges, station cost sharing, connector fees, land/air rights leasing, advertising, and concessions.

Urban Land Institute and Gladstone Associates (1979), Joint Development: Making the Real Estate - Transit Connection. Washington, D.C.: The Urban Land Institute.

Presents case analysis from five locations (Boston, Montreal, Philadelphia, Toronto, and Washington, D.C.) as it explores the techniques of public-private cooperation needed to complete joint development projects successfully.

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